R.F. XCVR

New!

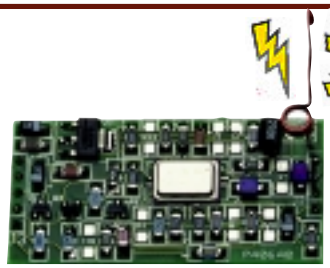
Low Cost WIRELESS (R.F.) TRANSCEIVER TTL I/O MODULE FOR OEMS

**916.5Mhz *19.2K Baud *Licenseless Band*

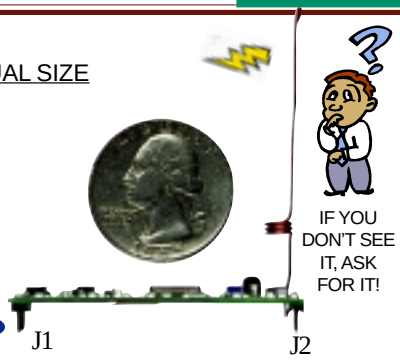
Model TR100

OTEK 's new ***TR100*** is designed specifically for OEMs to embed it in their systems & give them competitive advantage in the Wireless Market. The ***TR100*** is very economical and effective in transceiving streams of data at high rates over a short distance with minimum power consumption lending itself to battery operated products.

The Licenseless ISM Band (FCC Part 15) , low power & cost lends the ***TR100*** to many OEM products for Telemetry, SCADA, DCS, Security, Transportation, Process Control, Agriculture, Pharmaceutical, Paper and Pulp, Chemical and many more (not authorized for life support products). Note: Changing the antenna on the ***TR100*** will require FCC (or your country's) approval of the system before you can offer it for sale. See FCC CFR47, Parts 2 & 15.249). OTEK will supply you with a copy of its own FCC Approval File # for your reference. The ***TR100*** is available in kits or individual boards (also see the ***TR200***) with serial RS232/485/TTL I/O or the ***TR300*** **"Plug-N-Play"** version housed in a "DB9" style case, ready to plug to your PC. The ***TR200, TR300*** and ***TR400*** include the PCs' software at no charge.



ACTUAL SIZE



EVALUATION KITS:

OTEK offers several kits at a reasonable price for your evaluation and test of your application. The EK100 consists of 2 each TR100 ready for you to apply power (3.3V) & signal from your own microprocessor or TTL Signal. The EK101 is for 5VDC power.
Above kits accept TTL/CMOS I/O.

SPECIFICATIONS @25ºC:

Operating Frequency	916.5MHz ±200KHz
Modulation	OOK
Data Rate	OOK:19.2KB
Sleep Current	25µA
Receive Current	6mA
Transmit Current	12mA
Peak Transmit Power	0.85mW
Indoor/Outdoor Range	100/300FT
Voltage Input	2.7-3.5 or 3.5-5.5V
	10mVrms Max. Ripple
Receiver's Gain	100dBm
Size	0.15x0.85x1.85" (3.8x21.6x47m)
Operating Temperature	-20 to =75ºC

****Specifications & Prices Subject to Change Without Notice.***

If you want to bypass the interface development, see the ***TR200*** data sheet for models with serial I/O with RS-232C/485 or TTL ASCII either 5VDC or 8-25VDC power input and either PC pins or DB9 connector in the same small (1.85x0.85"x0.4") package (plus DB9); or the ***TR300*** housed in a "DB9" plastic housing only 1.7x3x.8", "Plug-N-Play" design. Ready to plug in your PC's Serial Port.

ORDERING INFORMATION (1-00)

Visa & Master Cards Accepted

Model	Description	Per Set Price(1-9)
EK100	Eval. Kit Set (2ea. TR100) for 3.3V, TTL/Cmos & OOK	$135
EK101	Eval. Kit Set (2ea TR101) for 5V,TTL/Cmos & OOK	$150

*Kits Include: Instructions & Typical µC Interface

Contact OTEK For Low OEM Pricing!

Tel: 520-748-7900 Fax: 520-790-2808
Toll Free: 877-BAR-OTEK (227-6835)
E-Mail:sales@otekcorp.com
Web:www.otekcorp.com

OTEK™ CORP.
Since 1974

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520-748-1539-8710

Operating Instructions for:

TR100, EK100

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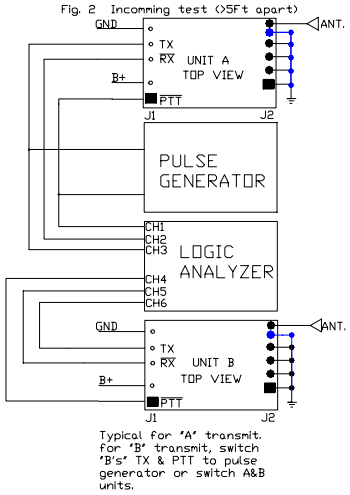
E-MAIL: sales@otekcorp.com
Web:http://www.otekcorp.com

A) Required Items:

1. 5VDC or 3.3VDC power supply with <10mVRMs noise
2. TTL pulse generators (one for data TX & one for PTT pulse) >5MHz
3. Logic analyzer or storage oscilloscope >50MHz
4. Two "TR100" Series Transceivers
5. Or Just Your TTL I/O Signals



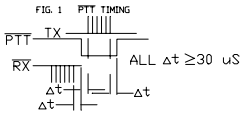
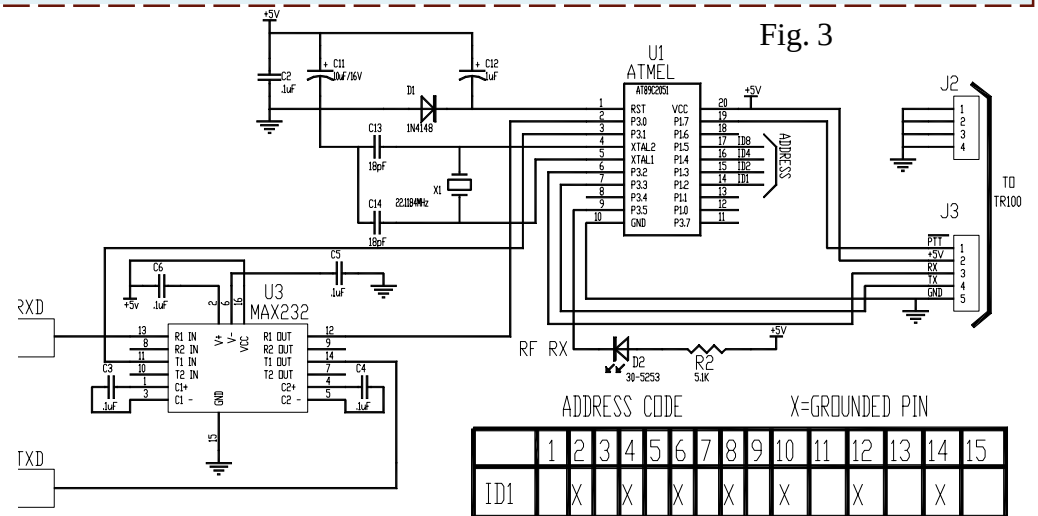


Fig. 3



ADDRESS CODE X=GROUNDED PIN

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
ID1		X		X		X		X		X		X		X	
ID2			X	X			X	X			X	X			X
ID3					X	X	X	X					X	X	X
ID4									X	X	X	X	X	X	X

B) Set Up & Test: (In A Hurry? Try #6)

Note:

1. The TR100 is available with 3.3 or 5VDC power input. Check your model before applying power and signal.

2. "PTT" (push to talk [transmit] timing is important, see Fig 1.

3. The PTT line should be always high (listening) except when ready to transmit and return high after end of transmission.

1. Solder the supplied antenna on the square Pad and connect power and signal keeping the units 5+ feet apart (see Fig2).

2. On unit "A" pulse PTT low (Pin 1) and apply 10 positive pulses (at 1KHz) to "TX" (Pin4), unit "B" should output (negative) 10 negative pulses on its RX (Pin3).

3. Repeat 2 above but using unit "B" as the transmitter and "A" as the receiver.

4. If 2 & 3 OK, move units farther apart and repeat; if not, check your connections and scope time base. The "TR100" will transmit at 916.5MHz @ 19.2K baud data rate.

If data is corrupted (RX), check your power supply (battery pack is preferred for low noise and portability) and pulse generator's rise time (<50nS).

5. If #4 above is OK, incoming test is completed and you are ready to customize the "TR100". Fig.3 shows the typical RS-232C to RF interface used on our own "TR200" model. You are welcome to reproduce it and develop your own software to satisfy your needs, or buy the preprogrammed uC (Atmel P/N AT89C2051) our p/n 29-2051P-TR200.0 for $25.00 ea. or buy the "TR200" (RF to RS232) transceiver or license the source code for the uC for $250.00 one time plus $1.00 per unit sold.

6. Simple Application & Test: Hz to Hz, Pulse to Pulse, Event to Event, Etc. Simply ground PTT (Pin 1) apply TTL Pulse(s) to TX (Pin 4) on "Transmitter". Connect PTT (Pin 1) to +5V and your counter or measuring device to the RX (Pin 3) on the "Receiver" and filter the 916.5MHz modulation..

Contact OTEK for further details at : support@otekcorp.com. Attn: Legal Dept